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Soil
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Service

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Soil & Water Conservation News

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NACD Meets, Speaks, and Listens

Spokespersons for all segments of the soil and water conservation movement in the United States met in Houston, Tex., February 10-14, for the 34th annual convention of the National Association of Conservation Districts (NACD).

Included among the more than 1,500 registrants were district officials, district employees, educators, and representatives of industry, conservation groups, and government. They came from all 50 States, Puerto Rico, and the Virgin Islands.

Keynote speaker Jane H. Yarn, a

member of the Council on Environmental Quality (CEQ), said that CEQ members and staff consider retention of agricultural land as one of the "top environmental issues" of the 1980's.

"All over the country," she said, "there is a growing awareness of its importance."

Referring to the joint CEQ-USDA study of farmland losses now underway, Yarn said she expected the study group's report to the President by the end of 1980 "to be the most definitive and complete Federal study of this issue yet produced."

Her concern over the annual loss of millions of acres of rural land to urbanization was echoed by NACD President Lyle Bauer, who warned that the country "also is losing the equivalent of another 3 million acres

through erosion of productive topsoil."

Another warning was sounded by Deputy Secretary of Agriculture Jim Williams, who told a packed ballroom at the annual NACD luncheon that USDA "has 34 programs designed to help conserve soil and water, but they haven't been enough."

He said that America is "still losing soil and water; we're still losing farmland. We must redouble our efforts to stem those losses."

Williams added that it is "gratifying" to know that conservation measures are getting the "full backing of the American public," as demonstrated by results of a recent SCS-financed survey conducted by Louis Harris.

Continued on next page.

Inventory Maps Published to Save Important Farmland

The Soil Conservation Service has published 262 county maps delineating prime and unique farmland and farmland of State and local importance and 8 State maps showing general areas of prime farmland. The agency's goal is to publish 1,200 county maps by the mid-1980's.

Important farmland maps are intended to help officials, planners, and other citizens in their efforts to retain farmland in developing areas and to return farmland to its original productivity after land-disturbing activities such as surface mining. The maps are also used in assessing the possible environmental effects of Federal projects on prime farmland.

States select counties for the im-

portant farmland inventory based on need. High priority are those counties experiencing rapid land use change and possessing rich coal reserves. Another consideration is the impact that a change in prime farmland use will have on the local economy and well-being.

SCS has the leadership role in the U.S. Department of Agriculture (USDA) for inventorying the Nation's prime agricultural producing areas, as authorized by Section 302 of the Rural Development Act of 1972.

"More than 1 million acres of prime farmland are converted to urban uses each year," said Norman A. Berg, SCS Administrator, in a speech at the annual meeting of the Delaware Association of Conservation Districts at Little Creek, Del., on January 25, 1980. "These lands are best suited for farming . . . are flat or gently rolling . . . have good soils . . . little or no erosion . . . are energy and water efficient acres . . . and assure con-

tinuous high productivity without degrading the environment.

"While these best agricultural lands are being lost daily, studies by SCS show that only 135 million acres of land with potential for conversion to cropland remain in the United States. Only 22 million have a *high* potential for conversion.

"We have to question the outlook for continuous high U.S. food production and favorable supplies and prices in the face of these shifts," Berg continued. "A recent report by the Presidential Commission on World Hunger states that unless the United States and other developed countries act now to increase long-range agricultural productivity, a global food crisis—worse than the present energy situation—is likely within the next 20 years."

At a meeting of Northeast agricultural leaders, Assistant Secretary of Agriculture for Natural Resources and

Continued on next page.

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NACD Meets, cont.

In a research forum, Anson R. Bertrand, director of USDA's Science and Education Administration, reported that "commitments to basic research in conserving natural resources have been renewed."

He said that the new National Soil Erosion Laboratory, now being built in Indiana on land provided by Purdue University, is on schedule and that research will begin there in mid-1981. Scientists will focus on both basic and applied research, he said, including a study of all possible combinations of tillage and mulching practices and erosion-control chemicals.

The cost of sediment control practices—or lack of them—was described at an urban conservation forum by Sam Race, coordinator,

New Jersey Soil and Water Conservation Services.

Race told of a New Jersey developer who is building a retirement home, driveway, and paved parking lot on a 6-acre tract. The sediment and erosion control plan as approved by the conservation district will cost an estimated \$14,324, including \$4,434 for sod and \$2,930 for permanent vegetative cover. The cost of *not* doing the sediment control work, according to Race, would be about \$62,000, including costs of an imagined lawsuit brought by a neighbor downhill, whose home was presumed to be flooded by increased runoff.

Spokesmen for the growing ranks of conservation district employees said at their forum that they would like to participate more often in SCS

management training courses. District managers also cited the need for clarifying their duties in relation to those of the SCS district conservationist, "so that we each understand what we're doing."

Education forums made it clear that districts are taking more positive action in environmental education, working directly with schools to make such studies part of local curriculums and securing more outdoor classrooms. A tour took delegates to two Houston inner city elementary schools, where the focus is on ecology, including plenty of soil conservation.

Hubert W. Kelley, Jr.,
director, Information Division,
SCS, Washington, D.C.

Inventory Maps, cont.

Environment M. Rupert Cutler said, "We should not shift prime farmland out of agriculture and try to make up the production by over-fertilizing marginal lands or by draining and plowing up our wetlands and other fragile environmental areas.

"We must not force ourselves to cultivate land that takes more gas and oil to produce crops, that uses more water, or that costs more to protect or clean up the environment. There is just as urgent a need for energy efficiency on the farm as in town.

"We must not urbanize areas that withstand soil erosion well and plow up other acres that wash or blow away easily. Despite four decades of effort, sediment pollution from soil erosion is still depleting the Nation's land base and still affects water supplies throughout America . . .

"Finally, we must not endanger the agricultural economy that is a vital

part of America's total food and fiber industry."

In 1975, a task force of the Department's land-use committee planned and conducted a national seminar on the Retention of Prime Lands. The 80 participants concluded:

"The continued conversion of prime production lands to other land uses is a matter of growing concern that will require a great deal of attention in the future. Extreme caution should be exercised in approving actions that result in irreversible conversions of prime farmlands to other uses. In some States, problems must be faced now or significant options for the future will be closed. USDA should be concerned with any actions that will diminish the Nation's ability to produce food, fiber, and timber."

In his memorandum No. 1827 on land use policy, Secretary of Agriculture Bob Bergland said, "We want land-use decisions to respond to

social and economic needs of local residents, but we also want to help protect the natural environment, develop high-quality living space, and assure adequate supplies of food, fiber, wood, and water."

"One of the greatest challenges for the 1980's," said SCS Administrator Berg, "will be to make the tough choices required to resolve land use issues that affect every level of government as well as individual rights and responsibilities. We must help local people protect farmlands from further loss; help State and local governments design programs to slow down farmland conversions; and determine what the Federal role should be.

"SCS has worked to define prime and unique farmlands, to establish other categories of farmlands important to State and local governments, and to inventory these lands," said Berg.

Bob Bergland
Secretary of Agriculture

Norman A. Berg, Administrator
Soil Conservation Service

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Comments:

from the SCS Administrator

As we begin the "action eighties," it is fitting that we start publication with this issue of a more dynamic and responsive periodical—*Soil and Water Conservation News*.

Soil Conservation magazine served the Soil Conservation Service and the districts well for nearly 45 years, but it is time for a change. The newsmagazine format will permit reporting of the scores of events and developments that are shaping soil and water conservation today. The aim of *Soil and Water Conservation News* will be to report as many significant conservation stories as possible: research, new conservation techniques, new programs, ideas for improved district management, important meetings and forums, and action under the Soil and Water Resources Conservation Act of 1977. There will continue to be a few feature articles in each issue, but they will be selected more than ever with an eye to their news value.

Even more than its predecessor publication, *Soil and Water Conservation News* must depend on *all* its readers for news tips, ideas, suggestions, and criticism.

News is solicited not only from district officials and SCSers, but also from the growing ranks of district managers and other district employees and from those who direct and manage State soil and water conservation agencies.

As an official agency publication, of course, certain subjects, like pending legislation, will not be discussed in its pages. But the editor wants and needs all the news you can send her on what is happening in soil conservation in the 50 States, Puerto Rico, and the Virgin Islands. We're going to print all we can.

We feel strongly that we need better communications within the soil conservation "family" if we are going to make much improvement in our communications with other Americans. Let's work together to make *Soil and Water Conservation News* a true reflection of the creative thinking of the thousands of fine men and women working today in resource conservation.



SCS Reorganizes

A reorganization of the Soil Conservation Service National Office to make Washington operations more efficient has been announced by SCS Administrator Norman A. Berg. Under the plan, which will be fully operational in late spring, the title of SCS administrator will change back to chief and that of associate adminis-

trator to associate chief. Reporting to the chief will be five assistant chiefs, who will assume many of the responsibilities of the present four field representatives. Four of the five also will supervise four Technical Service Center directors and will assist the chief in supervising the 51 SCS State conservationists.

National Office staff support will be provided through six deputy chiefs, who will replace the present two-layer organization of three deputy adminis-

trators and six assistant administrators. The deputy chiefs will report directly to the chief, as will those responsible for legislative affairs, equal employment opportunity, environmental affairs, information, and public participation. Leaders responsible for other National Office areas will report to one of the deputy chiefs.

The RCA Process

January 28th marked the end of one phase of the 1979-80 RCA process and the beginning of a new phase. Two years of USDA efforts appraising the Nation's non-Federal soil, water, and related resources, proposing both future conservation objectives and programs became "public property" as a 60-day public review period began.

History

The present form of soil and water conservation programs in the United States had its roots in the 1930's. The pattern established then—a flexible program based on the voluntary cooperation of land users—has changed but little for more than 40 years. It continues to be a mixture of Federal, State, and local activities, with conservation objectives set by local conservation districts and farmer committees and a majority of the funding coming from the Federal Government. Today there are 34 programs or activities relating to soil and water conservation in agencies of the U.S. Department of Agriculture alone. There is some type of State soil conservation agency in all 50 States, Puerto Rico, and the Virgin Islands. There are 2,950 local conservation districts established under various State laws. In every county, there is also a farmer-elected committee established under the Soil Conservation and Domestic Allotment Act. Finally, there are more than 2 million people cooperating in conservation programs by applying conservation practices on their land.

After more than four decades of experience with this many-faceted, decentralized program, the Congress in 1977 decided that it was time for a fresh look at present conditions and

the future of soil and water conservation in the United States. Congress could foresee increasing demands on basic natural resources. Accordingly, it enacted Public Law 95-192, the Soil and Water Resources Conservation Act of 1977 (RCA).

Although RCA is administered by the Soil Conservation Service, the Secretary of Agriculture named an interagency RCA Coordinating Committee to give overall guidance in preparing the RCA documents. Represented on the committee are nine USDA agencies concerned with the Department's soil and water conservation programs: Agricultural Stabilization and Conservation Service; Economics, Statistics, and Cooperatives Service; Farmers Home Administration; Forest Service; Rural Electrification Administration; Science and Education Administration; Soil Conservation Service; Office of Budget, Planning, and Evaluation; and Office of Environmental Quality. The Secretary also invited participation from two White House agencies: The Office of Management and Budget and the Council on Environmental Quality.

RCA required USDA to appraise the condition of the Nation's non-Federal land and water resources. It also mandated public participation in the appraisal and in developing a national program for conserving these resources.

Appraisal of Resources

The appraisal of resources is contained in two draft documents. The first document, *Draft Appraisal Part I*, was made public on September 4, 1979. In it, USDA analyzes the status and condition of soil, water, and related resources—wetlands, riparian vegetation, fish and wildlife habitat, windbreaks, and organic residues.

The information on the quantity and

quality of these resources is supplemented with statistical data on land and water, land capability, dominant soil conditions, and major uses of non-Federal land.

Part I of the 1980 Appraisal also contains an inventory of legislation and regulations dealing with resources and discusses the impact of technology on agricultural production and conservation. In addition, it identifies resource areas that concern the public and compares these with available data on conservation problems.

Draft Appraisal Part II, identifies and analyzes national resource conservation problems for the seven resource areas. These are:

1. Reducing erosion and preserving prime farmlands;
2. Improving water quality;
3. Conserving water;
4. Improving fish and wildlife habitat, including the preservation of wetlands;
5. Reducing upstream flood damages;
6. Conserving energy;
7. Solving related resource problems.

Part II projects demands on soil and water resources to the year 2030 and suggests levels of management that could be used to conserve these resources. It also summarizes trends in rural land ownership and describes the contribution of State and local programs to soil and water conservation.

Proposed Alternative Soil and Water Conservation Programs

The third draft RCA document, *Program Report and Environmental Impact Statement*, presents the objectives for resources conservation over the next 50 years, and details activities to meet them. Seven alternative soil and water conservation programs to carry out these activities are discussed.

These alternatives are:

Redirection of Present Programs—

Under this strategy, USDA would continue existing programs, but the allocation of funds and personnel would be redirected to better achieve national conservation objectives. Cooperation would continue to be mostly voluntary.

Cross Compliance—Under this approach, producers would be required to apply effective conservation measures to qualify for benefits under other USDA programs, including commodity price supports, low-interest loans, cost sharing, and crop insurance.

Regional Resource Project

Approach—This strategy would direct USDA programs toward the more urgent and chronic regional resource problems. Federal participation would be available only for programs that contribute to meeting national conservation objectives.

State Leadership—Under this strategy, States would assume leadership for planning and carrying out conservation programs. State and local governments would develop conservation programs for USDA approval, provide technical assistance to producers, and fund those activities that benefit mostly State and local people. USDA would fund activities that have national benefits but are beyond the interest or financial resources of the producer of State and local governments.

Regulatory Emphasis—This strategy would emphasize the use of backup regulatory authorities at the local, State, and national level to carry out an effective national soil and water conservation program. This approach would be coupled with a continued USDA costshare and technical assistance program and low interest loans that would offer incen-

tives for resource management.

Conservation Performance

Bonus—This strategy provides incentives to producers who voluntarily apply and maintain conservation measures that meet USDA standards. It offers incentives to obtain benefits under Federal programs but has no cross compliance provisions. Priority would be given to resource areas where present conditions pose the greatest threat to future food and fiber production.

Natural Resource Contracts—

Under this strategy, USDA would offer to purchase erosion reduction, irrigation water reductions, and other outputs of conservation from producers. The public would, in effect, buy specific benefits from those who control private natural resources.

Document Availability

Copies of all RCA documents were distributed to county offices of the Agricultural Stabilization and Conservation Service (ASCS) and/or the Soil Conservation Service (SCS) where they were available for public review.

Public Participation in RCA

During these 60 days, public comments about the proposals contained in the documents were received through various methods. Individuals, organizations, and agencies wishing to state their attitudes about USDA's proposals, could send written comments directly to a special, temporary office established to accept and handle public responses.

USDA obtained space at the U.S. Navy Supply Corps School in Athens, Ga., for use as a Response Analysis Center. At the center, local citizens were hired and trained to handle the responses in a manner required to successfully capture public reaction to RCA. USDA staff from around the

country were detailed to the center to supervise response coding, quality control, and other functions. Through March 17, the center had processed 16,000 comments.

During the last 2 weeks of February, 18 cities were the site of public meetings conducted by National Office-based USDA teams. Those meeting sites were: Billings, Mont.; Lexington, Ky.; Chicago, Ill.; Boston, Mass.; Atlanta, Ga.; Washington, D.C.; Spokane, Wash.; Jackson, Miss.; Fargo, N. Dak.; Roanoke, Va.; Fresno, Calif.; Lancaster, Pa.; Dallas-Fort Worth, Tex.; Des Moines, Iowa; Salt Lake City, Utah; Albuquerque, N. Mex.; Grand Island, Nebr.; and Raleigh, N.C.

Nearly 1,300 individuals and representatives of organizations and agencies attended the meetings, presenting testimony before representatives of the RCA coordinating committee. The public meetings were the only time oral comments would be received by USDA regarding RCA during the review period.

Transcripts of each of the meetings were sent to the Response Analysis Center for processing.

What's Ahead

Following the evaluation of public responses, USDA will propose to the President a statement of conservation policy and a recommended national soil and water conservation program. The President will make a final recommendation to Congress. The new conservation policy will be, in effect, on "trial," as USDA must review the program on an annual basis, and repeat the entire RCA process again in 1985.

Public Attitudes Revealed on Soil and Water Conservation

Results of a national survey of the public's attitudes on several major agricultural issues, including conservation of soil, water, and related resources, were released on January 17, 1980.

"The survey revealed that most American people believe more soil and water conservation is needed and are committed to a conservation ethic," said M. Rupert Cutler, assistant secretary of agriculture for natural resources and environment. "A majority also favors a public and private partnership to resolve soil and water problems."

Louis Harris and Associates, Inc., interviewed 7,010 adults—representing a cross section of the Nation's population—during the survey, conducted between October 19 and November 21, 1979.

"We conducted the survey to as-

sess the public's opinions, attitudes, and understanding of soil and water conservation problems and practices," Cutler said. "We will use the findings to help design future USDA soil and water conservation programs."

Other questions sought public opinion on such issues as gasohol, small farms, and priorities in land use.

Some of the survey's major findings are:

- Half of all Americans consider misuse of our soil and water resources a serious problem.
- Fifty-three percent consider the loss of good farmland a serious problem.
- People see conservation as a joint public and private responsibility and feel the burden should be shared fairly between government and farmer or other landowner.
- By 7 to 1, Americans accept Federal action to protect farmland from erosion as a proper role for government.
- Americans support the concept of small, family farms and Federal policies aimed at preserving and in-

creasing them. However, people understand that most of the food grown in this country is produced on large farms.

• The public consistently indicated a preference for allocating a greater share of soil and water resources to agriculture—specifically to food production—rather than to competing housing, industrial, energy, or recreation uses.

• More than 8 of 10 Americans are rated moderate-to-high on a conservation ethic scale, believing conservation is important for the country.

• More than three-fourths of Americans feel we have not reached the point in soil and water conservation efforts where we should be more concerned about holding down costs than completing the work that remains to be done.

• By more than 2 to 1, the American public says gasohol should receive more government support than synthetic fuels. In head-to-head choices, gasohol is seen as more likely than synthetic fuels to reduce oil imports, keep down gasoline costs, and less likely to damage the land.



RCA Documents

More than 200,000 documents, a million brochures, and 3,600 slide programs have been prepared during the 1979-80 RCA process. On September 4, 1979, 10,000 copies of *RCA Draft Appraisal Part I* were made public. Each Soil Conservation Service and Agricultural Stabilization and Conservation Service (ASCS) county office has a copy on display for public review. This early release was followed by release on January 28, 1980, of 10,000 copies each of the *Draft Appraisal Part II* and *Draft*

Program Report and Environmental Impact Statement.

At the same time, 200,000 copies of a summary of Appraisal Parts I and II and the Program Report were released. Shortly after that, RCA released 1 million copies of a general brochure outlining RCA objectives, alternative soil and water conservation programs, and locations of 18 public meetings to be held during the last 2 weeks of February. In addition, 70,000 copies of a Spanish language RCA brochure were published.

A slide show was prepared to highlight the contents of the draft docu-

• Americans value highly citizen participation in Federal decisionmaking, even though their reported participation is rather low at 33 percent. A large proportion value the ability to have a say in decisionmaking. They would participate more, they say, if they felt the effects of government decisions were more direct or if they felt they were truly being heard. While 21 percent say they would participate much more if the government were to help pay the cost of their participation, 44 percent say government financial help would not increase their participation.

• A substantial majority of the public feels government should provide loans to people trying to get started in farming.

"The survey is one of the public participation activities undertaken in the development of the future USDA program for conserving soil and water resources," Cutler said. "This effort is a response to the Soil and Water Resources Conservation Act of 1977 (RCA), Public Law 95-192."

ments and how the public could provide comments. Copies of this program were made available to SCS and ASCS offices in all counties.

Since conservation objectives and alternatives proposed by USDA will affect all citizens, USDA is committed to reaching as many groups and individuals as possible with RCA information. These documents, brochures, and slide programs are important methods to reach the American public.

Proposed '81 Budget for SCS

The Soil Conservation Service would continue to carry out its broad responsibilities in conservation with the agency budget proposed by the President for fiscal year (FY) 1981.

Proposed is a budget totaling \$535.2 million, an increase of \$12.3 million over the FY 1980 budget. FY 1981 begins October 1, 1980.

With the funds proposed, SCS would be able to continue the policy of targeting available resources on soil and water conservation problems of national scope. These include critical erosion, protection of prime farmland over coal, water conservation and quality, agricultural waste management, treatment of lands owned or operated by small farmers, Indian lands, and nonstructure alternatives for flood control in upstream watersheds.

A decrease is proposed for planning of small watershed projects, based on the need to better align planning with construction. No new construction starts are proposed for Public Law 566 small watersheds.

The Resource Conservation and Development (RC&D) Program is presented for FY 81 as the second year of a 3-year phaseout.

Personnel ceilings proposed for the end of FY 1981 are 13,190 permanent full-time (PFT) positions, and 3,040 for all others. SCS employment ceilings established by the Department for FY 1980 are 13,650 PFT, a reduction of 6 from the FY 1979 level; and 3,040 for all other positions, reduced 60 from FY 1979.

Congress began hearings on the SCS budget in March.

The FY 1981 budget for the Soil Conservation Service is proposed as follows:

(Dollars in Thousands)

	1980 Budget Authority	1981 Budget Authority
Conservation Operations	\$277,075	\$283,801
River Basin Surveys and Investigations	16,487	17,442
Watershed Planning	11,115	6,660
Watershed and Flood Prevention Operations	167,524	172,160
Flood Prevention	(18,500)	(19,860)
Emergency Watershed Protection Operations	(10,000)	(10,000)
Watershed Operations	(139,024)	(142,300)
Great Plains Conservation Program	18,689	20,591
Resource Conservation and Development	32,000	34,593
Total	\$522,890	\$535,247

Low-Level Aerial Surveys Aid Districts, Planners

by David L. Kendall

When I first suggested an air survey of Hartford County, Conn., as part of our Section 208 Erosion and Sediment Source Inventory (ESSI), the first reaction of our district board was, as might be expected, "too expensive."

But District Conservationist Vern Anderson and I convinced the members that we weren't talking about a high-priced photogrammetric survey. We meant a systematic look at the land from a low-flying, light plane.

Earlier attempts to locate problem areas through a car windshield left a lot to be desired. Deep road cuts, winding lanes, and woodland vegetation too often blocked the view. We were missing too many serious erosion and pollution problems in our rapidly urbanizing county.

Our first trial flight, using one of Hartford County's numerous private air services, convinced us that we had a workable, affordable idea for pinpointing erosion. Flight time for a four-passenger plane and pilot ranged between \$30 and \$40 an hour, and we could cover a lot of territory in 60 minutes. Clearly visible from the air were sediment-laden streams emptying into ponds and wetland areas; stream cutbanks contributing sediment load to streams; and sand and gravel companies operating too close to the water. Vern Anderson and I could also spot housing developments with stripped roadways and unprotected lots already scarred by deep gullies. All these problems could be seen from the air and pinpointed on our U.S. Geological Survey map in just a few minutes. From the ground, it might have taken us days, if we could have found them at all.

That first flight convinced the board of the Hartford County Soil and Water Conservation District that our idea

had merit, and members authorized up to \$500 for the project. We made the flights in late March, when the snow was gone but new vegetation had not yet leafed out to mask problem areas. The whole county was flown for under \$400.

Following up our flights on the ground, Barry Sexton, the district ESSI technician, turned up several severely eroded areas that would certainly have been missed from a windshield tour. Even when Vern and I made minor plotting errors in the air, it still took Barry a lot less time to find those trouble spots than if he'd made a random search from roadways.

We also decided that others in the county might learn something from our low-level flights and invited Alan Lamson, town planner for Manchester, to accompany us for a look at his town from 1,000 feet up. Lamson was reviewing several applications for housing subdivisions in areas where he expected complications with wetland zoning regulations.

"It's easy to see wetlands from the

Make the Most of Your District

by Franklin F. Flint

I've heard people jokingly refer to a hard-to-find soil and water conservation district as a "phantom," and sometimes it's a pretty accurate description.

Districts that have no established office or staff, no listing in local telephone directories, and only occasional items in the local newspaper or brief radio spots are all but invisible to the community. But district boards have the responsibility for becoming active, visible public servants.

It has been my experience that achieving three goals will help any district become a working partner in the community: setting up a district office; providing services through special projects; and conducting an energetic public information campaign.

In setting up a district office, a clerk or office manager should be hired, permanent office space and files should be provided, the office telephone number listed in the local directory, and a suitable room provided for board meetings.

In organizing the SWCD board to provide services, board meetings need to have a meaningful agenda, committees and individuals need to

be assigned specific tasks and responsibilities, associate directors need to be involved in district activities, and memoranda of agreement with other government agencies need to be kept current.

In keeping the public informed of district services, the board needs to gain public media support; work with local legislators; develop a realistic annual program, budget, and long-range plan; and publish an interesting and factual annual report to the community.

Other activities that help build the district's public image are publishing a newsletter, holding an annual conservation tour for local citizens, recognizing outstanding district

air," Lamson said. "I also spotted several sediment basins on an industrial park development that were approaching capacity. This information allowed us to plan and budget for the dredging ahead and to avoid emergency expenditures."

Lamson believes that every planner and official should use low-level flights to get acquainted with his or her town or city.

"Standard air photos are too small and topographic maps don't show enough detail," he insists. "You've got to see the land with your own eyes."

A longer term benefit from the flights is the photographic record we made. We use conventional 35 mm SLR cameras and are building a slide collection useful for conservation, for education, and as a historical record of county development.

David Kendall,
chairperson, district board of supervisors,
Hartford County Soil and Water Conservation
District, Windsor, Conn.

What might have been screened from view on the ground is clearly visible from the air: a gravel pit operation next to a stream. The potential for downstream sedimentation is of concern to the soil and water conservation district.



Also clearly seen from the air are sediment basins used during development to trap and store sediment. Airborne viewers can easily tell if a basin is reaching capacity.



cooperators through awards programs, supporting and encouraging conservation education activities for youth, and maintaining progress reports on special or major conservation projects in the district. Little additional local funding is required for these activities and the money can be raised easily if the public understands the district's mission.

To make the most of board meetings, the agenda should be carefully planned, and reports and all necessary background material should be on hand. In a multicounty district, because of traveling distance, it is important to restrict committee meetings to matters of substantive policy.

Associate directors should be used

as much as possible for district work because it gives them valuable experience and helps directors with their required tasks. It also provides the opportunity to encourage dedicated and hard-working associates themselves to seek elective office as directors.

Cooperation with other government agencies such as the U.S. Department of Agriculture Soil Conservation Service and other Federal, State, and local agencies improves the quality, quantity, and coordination of districtwide conservation activities. The Robert E. Lee SWCD tries to invite representatives of each agency holding a memorandum of agreement with the district to attend at least one

board meeting a year. This helps the board members meet the individuals responsible for major conservation projects and programs within the district.

An active soil and water conservation district providing community services and keeping the citizens informed of its activities dispels the image of the phantom district and converts it to a ready and willing public servant.

Franklin Flint,
first vice president, Virginia Association of Soil and
Water Conservation Districts and a director of the
Robert E. Lee Soil and Water Conservation District
Board.

SCS Accelerates Watershed Planning

by Patrick B. McGrane

Changes in the Small Watershed Program

Small watershed projects under Public Law 566 involve protecting, managing, improving, and developing the water and related land resources of a watershed up to 250,000 acres in area. Recently several changes were made in these watershed protection and flood prevention programs to accelerate the installation of land treatment measures to control soil erosion and reduce water pollution. SCS is requiring that 50 percent of the drainage area above a dam be adequately protected from soil erosion as a precondition for construction. Agency policy was also revised to require that land treatment practices be considered on an equal basis with structural and nonstructural measures such that project plans may include land treatment practices only or a combination of land treatment and structural and nonstructural measures. Provisions have been made through long-term agreements for Federal cost sharing to install soil and water conservation, water pollution abatement, and fish and wildlife habitat practices where consistent with project objectives and in a manner such that these funds will not compete with those available from other conservation and environmental cost-sharing programs.

Nebraska taxpayers are now getting faster flood water and erosion control protection planning from the Federal Government because of a recent change in the Soil Conservation Service watershed planning process.

"We have started using contracts with private engineering firms to do more watershed planning than was previously possible by the SCS staff," explained Tulley Nelson of the SCS water resources planning staff, Lincoln, Nebr. "By using contracts, we can have more watershed plans being written. This change cuts several years' waiting time from those watersheds which would have to be delayed if SCS were going to do the planning."

"Letting private firms contract for some of the planning is a relatively new idea for SCS. But by changing our policy, we now have contractors

developing watershed plans to SCS standards," said Benny Martin, SCS State conservationist for Nebraska.

"The increased planning efforts came about because of the Nebraska Natural Resources Commission, the governing State agency, desiring faster completion of Public Law 566 Watersheds," said Martin.

"We evaluated our funding and personnel available to do the job, keeping in mind that it takes 30 months to complete a watershed plan. The only alternative we had was to request Architectural and Engineering (A&E) funds from the Watershed Planning Division in the SCS National Office. The Natural Resources Districts (sub-divisions of State government and often the watershed sponsors) agreed to pay a portion of the A&E contract costs," he said.

"The contracts have helped us

Four Watershed Projects to Receive Planning Assistance

The U.S. Department of Agriculture has approved four new watershed projects for planning assistance in Minnesota, New York, and North Carolina. Soil Conservation Service State offices will provide help to local sponsors of the four projects. Assistance includes investigations and surveys necessary to develop watershed plans under Public Law 83-566, the Watershed Protection and Flood Prevention Act.

Environmental impacts of each project will be assessed at the same time the project plan is developed.

The newly authorized projects are:

- Brandywine Creek watershed, Broome County, N.Y.;

- Dyke Creek watershed, Allegany County, N.Y.;
- Snake River watershed, Marshall, Pennington, and Polk Counties, Minn.; and
- Moss Neck watershed, Robeson County, N.C.

The four projects will protect the watersheds they serve from erosion and siltation and help prevent flooding and poor drainage. They will also increase recreation and provide fish and wildlife habitat.

The Public Law 83-566 watershed program offers a unique opportunity to provide Federal assistance to local units of government to develop alternative plans to solve their agricultural and/or urban flood management problems.

better serve the people of Nebraska by being able to respond to and plan more of their requests. Because of this change, we now have two plans 2 years ahead of schedule and another one 5 years ahead of its previously scheduled completion date. We plan to grant as many contracts as we can afford," said Martin.

"The faster the plans get to the construction stage, the sooner the land treatment and flood control measures are installed which reduces the threat of floods and soil erosion to the taxpayer," said Nelson. Flood control measures involve such things as grade stabilization structures, floodwater-retarding structures, zoning of flood prone areas, or flood proofing buildings.

"It normally takes 4 to 6 years to complete a watershed plan and actually begin construction of any dams. Any watershed plan goes through a

lengthy process of governmental and public review," said Nelson.

"The process starts with a sponsor filing a request for assistance with the Nebraska Natural Resources Commission. The commission then asks for some base data and a recommendation on the watershed from SCS. The commission then evaluates the SCS information and decides whether or not to approve the watershed application.

"If the watershed is approved, SCS develops a detailed plan of options available for the sponsor to control flooding and erosion. An environmental impact statement is also written, when determined necessary. It usually takes 2½ to 3 years to write a work plan that is acceptable to the people in the watershed area and the governmental agencies," he explained.

"If the work plan is acceptable,

then it is forwarded to the U.S. Department of Agriculture for approval. After the Department reviews it, they forward it to the Water Resources Council for review and then to the Office of Management and Budget (OMB) for review again. After the OMB review, the plan is sent to the House and Senate for final approval and authorization for construction.

"With all the reviews, and any changes as a result of those reviews, it is easy to see why it takes so many years to plan a watershed. The watershed plan could be stopped anywhere along the way. Thus, the sooner we can get a plan written, the sooner the plan will get to the construction stage," said Nelson.

Patrick McGrane,
public information officer, SCS, Lincoln, Nebr.

Emergency Watershed Protection Program Revised

The Soil Conservation Service's new Emergency Watershed Protection Program will emphasize using funds to alleviate immediate threats to life and property resulting from damage to a watershed by a disaster.

Final rules and regulations for the program were published in December. Major changes are that:

- Fewer measures will be eligible for funding. For instance, SCS will not carry out maintenance activities nor repair structures built under other Federal authorities. As another example, SCS will not stabilize streambanks with rock riprap where it would protect only unimproved agricultural land because the benefits

would not justify the cost.

- Local sponsors will bear 20 percent of the cost of most measures.
- SCS will not require an economic analysis of work to be done but will require that benefits be identified to justify expenditures.
- Funds must be obligated within 220 days from the time they are made available or the money will revert to the "kitty" to be used for other emergencies that might arise.

The Emergency Watershed Protection Program was revised because of an Executive Order from President Carter requiring a review of the program and because of a change of authority for carrying out such work.

SCS previously administered emergency watershed protection work under Section 216 of the Flood Control Act of 1950. Funds were lim-

ited to \$300,000 under this act, and supplemental appropriations were needed regularly. In 1978, SCS received a total of \$110 million in supplemental funds.

The revised program is administered under Section 403 of the Farm Credit Act of 1978. This act authorizes the program to be funded according to what Congress deems necessary from year to year. For FY 1980 and proposed for FY 1981, the budget for the Emergency Watershed Protection Program is \$10 million.

Anne Schuhart,
writer-editor, Information Division, SCS,
Washington, D.C.

He Sells Conservation Tillage

by Jerry D. Schwien

Ernie Behn retired from the Soil Conservation Service in 1973. Now he's a full-time farmer. He's also a salesman, a public speaker, and an author. His subject—conservation tillage.

He and his son Jerry use conservation tillage on 1,400 acres of corn and soybean land near Boone, Iowa. Their yields last year ranged from 47 to 61 bushels of beans per acre and from 128 to 165 bushels of corn. The Behns use a till-plant system, planting on a ridge. Their soils are predominantly Clarion and Webster.

Ernie has written a book "More Profit with Less Tillage." He gave more than 100 speeches last winter at soil conservation district and farm co-op banquets.



Ernie Behn, a conservation tillage advocate, inspects an excellent stand of soybeans which he till-planted in a ridge in corn residue.

He begins his talk with the following quote: "The best seedbed in the world is achieved by doing nothing."

Behn says, "Farmers heard for years that if you use minimum tillage, it leaves the ground too cold and too wet. The corn won't come up. The yields go down. Weeds grow, and bugs eat your corn."

"Now how can you sell something like that?" asks Ernie. "I remember this old guy on radio 15 years ago. He went out knocking on doors, nobody home. He was called a supersalesman. Once in a while, somebody did open the door, and he would say, 'You don't want any do you?' They would say, 'No.'"

"That's the way we have been trying to sell conservation tillage. We must change our approach. Let's be positive. Those rumors you've heard about conservation tillage are not true. With a little effort, we can overcome the problems."

Behn's system does just that. He till plants in a ridge. The ridge warms up early allowing him to plant 2 to 3 days before his neighbors. The soil is firm and moist—a perfect seedbed. His stand is perfect. His fields have fewer weeds than those prepared with conventional tillage, and Behn hasn't applied insecticides in 13 years of farming with conservation tillage.

"I've developed my own list of disadvantages," says Behn. "These are for conventional farmers. Conventional farming is okay, but it takes too much fuel. Machinery is more expensive. Conventional tillage is okay, but you have more wind and water erosion. The time pressure index is high. This means that you're under pressure all the time. You hurry to plow, disk, harrow, field cultivate, plant, spray, and cultivate—constant pressure. Conventional tillage is okay, but

your soil dries out. You have to pull corn out of the beans. Weed control is difficult.

"My system is better. I don't have to pull corn out of my beans. The planter pushes volunteer corn seeds into the space between the rows where I can cultivate them out."

"Soil erosion is no problem and my yields are better than with conventional tillage," says Behn.

SCS in Iowa helped Behn produce a slide/tape program so that more farmers can hear about and see Behn's system firsthand. SCS and district officials in Iowa presented the show at winter meetings.

SCS Iowa State Conservationist Bill Brune says, "More than half of Iowa's farmers have discarded the plow. Of the 21 million acres of corn and soybeans in Iowa last year, 10.8 million acres were prepared for planting without use of the moldboard plow."

"Not all farmers are leaving enough residue," says Brune, "but we are seeing reduced tillage statewide."

In his book, Behn has a complete chapter of quotations from other farmers who are completely satisfied with conservation tillage.

He believes conservation salespeople must take the positive approach. A system which offers more profit with less tillage is very marketable to today's fuel conscious farmer.

Jerry Schwien,
head, information staff, Midwest Technical Service Center, SCS, Lincoln, Nebr.

News Briefs

Funding Boosts Soil Mapping in the West

Financial assistance from other Federal, State, county, and local agencies has enabled the Soil Conservation Service to map an additional 17 million acres of soils in five Western States since 1974. This additional acreage is almost a third of the total acres mapped in Montana, Nebraska, North Dakota, South Dakota, and Wyoming in the last 5 years.

The funding from other agencies, which includes contributions from the Old West Regional Commission (OWRC), enabled SCS to assign more soil scientists to the five-State area and thus accelerate soil mapping. The OWRC is a Federal-State partnership for solving regional problems and concerns, and receives Federal funding.

"Local and State government leaders recognize the importance of a soil resource inventory in making better planning decisions," said Van Haderlie, SCS State conservationist in Montana and coordinator of OWRC-SCS cooperation in soil survey activities. "That is why OWRC and other sources are eager to contribute to the soil mapping program. County governments, for example, want to know where the important farmlands are and which soils might present problems for sewage disposal.

"Some agencies contribute to the soil survey program," explained Haderlie, "because they need a soil resource inventory, but a lack of time, people, or expertise prevents them from doing one themselves. SCS will enter into a cooperative agreement with these agencies to get the job done."

Brad Anseth,
public information officer, SCS, Bozeman, Mont.

New RC&D Areas Approved

Six new Resource Conservation and Development (RC&D) areas, covering almost 31 million acres in 44 counties, are now eligible for RC&D assistance from USDA, Secretary of Agriculture Bob Bergland has announced. Five of the areas are located in Indiana, Maryland, North Dakota, Pennsylvania, and Texas. The remaining area is mainly in Arizona but partly in California and Nevada.

SCS Has Good Year in EEO

In fiscal year 1979, Soil Conservation Service employment of minorities increased from 1,199 to 1,410, to more than 10 percent of the full-time work force. Full-time employment of females increased by 2 percent over last fiscal year, according to William Centopani, SCS equal employment opportunity coordinator.

Last July, of 321 student trainees employed by SCS, 24 percent were female and 21 percent were minorities. The agency also employed 277 Cooperative Education Program students for many technical and administrative positions. Of this number, 27 percent were female and 58 percent were minorities. SCS uses the Cooperative Education Program to fill technical, administrative, professional, and paraprofessional positions.

Ted Kupelian,
writer-editor, Information Division, SCS,
Washington, D.C.

April 22 Is Earth Day

Earth Day '80, on April 22, will mark the 10th anniversary of the first nationwide effort to enlist public participation in environmental issues.

Focus of this year's celebration will be on local programs such as conservation workshops, tours, street fairs, and other events.

Happy Birthday, SCS!

It was on April 27, 1935, that Public Law 46 was passed "to provide for the protection of land resources against soil erosion, and for other purposes." Thus the "emergency" Soil Erosion Service became the permanent Soil Conservation Service.

In a message in the first issue of *Soil Conservation* magazine in August 1935, Secretary of Agriculture Henry A. Wallace said:

"Soil erosion control, to be effective, permanent, and economically feasible, involves more than the use of vegetative and engineering methods. It involves, also, general land-use planning, proper crop rotations, controlled livestock grazing, and the application of other sound farm-management practices. Hence, practically every branch of the Department is concerned, should be called on, and should cooperate at all times in shaping and carrying forward a practicable program. Similarly, the Soil Conservation Service should cooperate with the other branches of the Department in order to utilize to the greatest extent possible all existing resources and information.

"Many have spoken to me of the sincere desire of officials in all branches to help make this new undertaking a truly successful one."

The year 1980 is also the 75th anniversary of USDA's Forest Service. It is the 10th anniversary of the President's Council on Environmental Quality.

Federal Agencies Combine Efforts to Photograph U.S.

Federal agencies are pooling funds for a National High-Altitude Photography (HAP) Program that will save millions of dollars yearly. The HAP program will provide complete coverage of the conterminous United States in 3 to 4 years—an area of about 3 million square miles. A maintenance cycle will provide repeat coverage of selected areas.

For at least a decade, several Federal agencies have been obtaining high-altitude photography independently. The agencies have spent a lot of money without achieving national coverage. This program will maximize results and minimize costs to meet the varied needs of the U.S. Department of Agriculture (USDA) and U.S. Department of Interior (USDI), as well as the Commerce Department, Department of Defense, Department of Energy, and many others.

HAP is the result of surveys conducted by USDA and USDI's Geological Survey (USGS) to identify different agencies' needs for remote sensing. There was enough need for high-altitude photography to consider joining forces for a national HAP program. During August 1978, USGS sponsored a Federal High-Altitude Photography Conference to present a draft proposal for the program. At the conference, a steering committee was formed to consider the findings of the conference and complete a proposal to be submitted to interested Federal agencies.

The steering committee is comprised of five members. USDA's Soil Conservation Service, Department of Defense's Army Corps of Engineers, USDI's Geological Survey and Bureau of Land Management, and the Tennessee Valley Authority. Each

year the committee will obtain funding commitments and determine priority areas to be photographed, based on a review of the priorities reported to the committee by the Federal agencies.

The HAP program is funded through interagency agreements, and USGS will administer the contract and inspect the imagery. Up to one-third of the country will be flown annually requiring two or three planes. Consideration of the committee's priority area selections and of weather factors and sun angle will insure year-round flying over the entire country. The planes will be outfitted with two cameras: one for black and white mapping and one for higher resolution color infrared resource photography.

The most important of HAP's many advantages is a reduction in present Federal agency operating costs, with no increase in staffing, to obtain national photographic coverage. Benefits to SCS are numerous: SCS programs dependent upon current imagery will not be delayed since imagery no older than 3 years will be available; the two cameras will provide photographs to meet many of the programs' requirements, including soil survey mapping; and photointerpretation using the new imagery should reduce field work substantially.

The contract for the National High-Altitude Photography Program was awarded in February 1980. Allowing the contractor 90 days to prepare to fly, HAP should be taking off during FY 1980.

Tarheel District Increases Wildlife Refuge Capacity

A steady stream of conservation improvements continues to increase the wildfowl capacity of the Pee Dee National Wildlife Refuge in Anson and Richmond Counties, N.C.

Administered by the U.S. Fish and Wildlife Service, the 8,400-acre refuge provides habitat for more than 15,000 ducks and some 1,500 geese each winter.

Since it opened in 1964, the refuge management has worked with the Brown Creek Soil and Water Conservation District and the Soil Conservation Service on a variety of projects, including water management reservoirs, to help provide the large shallow pond areas where ducks and geese like to feed.

One impoundment is a field in summer, with corn and strips of native vegetation. It is flooded for the ducks in winter with water pumped from Brown Creek to supplement rainfall. Below the impoundment is a green tree reservoir, surrounded by a dike and covering 150 acres of woodland. There, ducks find shelter and acorns.

New projects include a 15-foot dam that impounds a permanent 25-acre lake and a 5-foot dam that temporarily backs up 75 acres of water. The latter, only a foot or two deep, includes a 40-acre field and 35 acres of timber. SCS and the district also help with pasture management, terracing, grassed waterways, and conservation cropping systems.

Planned for the 1980's is a reservoir covering from 300 to 500 acres, which will serve primarily as winter habitat for ducks.

John W. Smith, Jr.,
district conservationist, SCS, New Bern, N.C.

CONSERVATION Research Roundup

Contributing editor, Russell Kaniuka, public information officer, SCS, Orono, Maine.

Stubble Mulch Campaign

A campaign to stubble mulch potato fields in the St. John Valley of Maine has cut the average annual rate of soil loss by 12 tons per acre.

The campaign was launched inauspiciously in 1962 when Clifford Roy, Soil Conservation Service district conservationist with the St. John Valley Soil and Water Conservation District (SWCD), joined district cooperator Lloyd Dumond—some of whose fields were losing 16 tons of soil per acre—in devising a system to help protect soil through proper management of crop residues. The residues come from the stubble of oats grown in rotation with the potatoes. After 8 years of informal studies and trials at the Dumond farm near New Canada, Roy and Dumond developed a workable system.

Roy then began the long-term task of persuading cooperators that the remedy for erosion hinges on using the vibra-shank chisel to lightly disturb the soil so as to keep residues at or near the surface, and abandoning the moldboard plow which buries them.

In time, Roy's efforts brought protection to some 12,000 acres of the district's potato fields through stubble mulching, and last year earned him USDA's Superior Service Award. Other SWCD's in Maine are now scheduling clinics in stubble mulching.

The St. John Valley residue management system begins at oat harvest by attaching a chopper to the combine to spread chopped straw over the field. With the first heavy rain of the fall, the chopped straw will settle deeply into the stubble—the proper condition for chisel plowing, Roy advises.

When chisel plowing, the farmer

works the straw and stubble into the upper 6 inches of soil. One pass is adequate across a major slope or on the contour.

The following spring, the farmer prepares land for potato planting by making a single pass with a chisel plow or disk harrow. Roy notes that it is necessary to maintain all possible mulch near the surface during the growing season by practicing minimum tillage when cultivating or hoeing. This is achieved by making a pass between the potato rows to loosen the soil. Then a second pass is made with a tool bar and trailing spades to build up a potato row.

Roy advises choosing a fertilizer with a higher than usual nitrogen analysis to replace the nitrogen used in the decay of residues and thus help maintain potato yields. It is also desirable that fields to be stubble mulched be free of weeds at the outset for best results, Roy says.

Super Slurper

Super slurper, a starch-derived absorbent that swells as it jells, has been pressed into service to stabilize and revegetate disturbed soil.

Depending upon the chemical purity of the water with which it is mixed, the slurper can swell from a few hundred to 1,000 times its weight. Put into more practical terms, treating a sandy soil with 0.2 percent by weight of super slurper will give it about the same water-holding capacity as the best Corn Belt soils.

Because of this characteristic, super slurper has become the key ingredient in many proprietary products—including those used in soil conservation—since its develop-

ment in May 1973 by USDA's Northern Regional Research Center, Peoria, Ill.

Major conservation uses include hydromulching and hydroseeding grass onto disturbed land. In hydromulching, the slurper is mixed with water and a fibrous mulching material, usually hay, straw, or wood or paper fiber. Estimates are that up to 10 million acres of disturbed U.S. land annually require such seeding, including roadsides, mine spoils, shopping centers, athletic fields, power lines, airports, dams, levees, and similar projects.

Use of the slurper in hydromulch products greatly improves seed germination by holding water in the root zone instead of allowing it to soak deeper. The slurper also acts as a highly effective binder or tackifier that keeps mulching material from washing or blowing away.

A spokesman for a firm processing hydromulch mixtures reports that super slurper initially attracted his interest "because it was not on the endangered species list" as a replacement for such vulnerable petroleum-based materials as asphalt.

The present cost of pure super slurper for bulk users ranges from \$2.50 to \$3 a pound. But prices are expected to decline substantially as production increases. New uses for super slurper in industry and agriculture are reported constantly, so much so that it is impossible to envision the variety and extent of its ultimate usefulness, the Northern Regional Research Center notes.

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Meetings

April	2-4	Annual Symposium on Engineering Geology and Soils Engineering, Boise, Idaho
	12-17	American Planning Association, San Francisco, Calif.
	13-16	Association of American Geographers, Louisville, Ky.
	13-17	National Agricultural Plastics Association, Tucson, Ariz.
	15-17	International Symposium on Livestock Wastes, Amarillo, Tex.
	16-18	Hardwood Plywood Manufacturers Association, Charleston, S.C.
	27-29	Chamber of Commerce of the United States, Washington, D.C.
May	27-30	The Garden Club of America, Norfolk, Va.
	3-7	League of Women Voters of the United States, Washington, D.C.
	11-14	National Council of State Garden Clubs, Inc., Oklahoma City, Okla.
	21-23	Southern Forestry Conference, Biloxi, Miss.
June	22-27	American Geophysical Union, Toronto, Ontario, Canada
	1-4	The American Institute of Architects, Cincinnati, Ohio
	2-6	General Federation of Women's Clubs, St. Louis, Mo.
	8-14	World Congress, International Federation of Park and Recreation Administration, Berlin, West Germany
	15-18	American Society of Agricultural Engineers, San Antonio, Tex.
	15-20	American Water Works Association, Atlanta, Ga.
	22-27	Air Pollution Control Association, Montreal, Quebec, Canada
	22-26	American Seed Trade Association, Inc., San Diego, Calif.
	29-July 3	National Association of Counties, Las Vegas, Nev.

SCS Published a Record 133 Soil Surveys in 1979

The Soil Conservation Service published 133 soil surveys in fiscal year 1979—a record number, according to Norman A. Berg, Administrator of SCS. The surveys cover 66 million acres and each represents a county area.

"Since 1899, when soil survey work began," said Berg, "more than 1.4 billion U.S. acres have been mapped—about 63 percent of the land area. Publications are

available for more than 1,200 county areas. All the U.S. land area is expected to be mapped by 1997. Some counties may be remapped, however, to add modern data.

"With growing pressures on U.S. land, published soil surveys are increasingly in demand to aid in crucial land use decisions, to prevent or undo environmental damage, to preserve the Nation's heritage of wilderness and wildlife, to protect natural resources, and to improve the urban environment," Berg said.

"Soil survey maps and interpretations are being used in reclaiming strip mined areas, in managing and protecting wetland areas, and in controlling the hazard of soil erosion on farmland," he said. "In some areas of the country, such as coastal Florida and southern California,

the need for published soil surveys has become urgent to overcome land use problems."

Each survey represents 3 to 5 years' work by a team of field soil scientists, who have mapped and interpreted the soils of the survey areas.

Copies of soil surveys may be obtained from local libraries, soil conservation district offices, county agents, or SCS field offices.

Recent Soil Surveys Published

by the Soil Conservation Service

Arkansas: Ashley County and Craighead County.

Idaho: Jefferson County Area.

Illinois: Adams County.

Michigan: Kalamazoo County.

North Carolina: Edgecombe County.

Oklahoma: Pushmataha County.

Puerto Rico: Ponce Area.

South Dakota: Grant County.

Wisconsin: Polk County.